Notes on Plotinus - Ennead Two, Eighth Tractate - Why Distant Objects Appear to be Small

2.8.1 Review of Arguments Regarding Why Distant Objects Appear to be Small

Why do distant objects appear to be smaller than they really are? Why do multiple distant objects appear to be closer together than they really are? Why is it only when we are close to objects that their true size and distance from one another are apparent to us?

It is possible that distant objects appear smaller and closer together so that the light which transmits their image to us can fit within the diameter of our pupils. It is also possible that the further an object is away from us, the more of its true Form is lost as its image is transmitted to us. Thus, Magnitude and other Qualities are stripped from the object by the time their image arrives. Epicurus posits that we only apricate the true size of something by analyzing and relating its component parts, requiring us to be close to gauge their proportions properly. Perhaps our experience of the amount of color each part of an object expresses informs our judgement of its size. Then relating greater and smaller amounts of color present in an object's parts would permit us to deduce the size of the entire object. If we must be able to perceive the relative amount of each color an object possesses to judge its size, we would be unable to do so for distant objects because their colors blur together.

Given these considerations, perhaps it is no surprise that size is like sound. Sound's Magnitude is reduced over distance. When we hear a sound, we primarily hear the Form of it (i.e. the particular timbre and frequency of the sound), while the volume of it is discerned separately. This raises the question as to whether or not the Magnitude (i.e. loudness) of a sound is experienced directly or indirectly. With regards to the physical objects, we can experience their total Magnitude (i.e. size) directly via our sense of touch. With regards to Sound, we do not directly perceive the totality of its Magnitude. Instead, we experience it on a continuum of intensity depending on a multitude of environmental factors. It is the same as how our tongue perceives the sweetness of sweet foods in degrees. We do not directly perceive the total sweetness of the food. Rather, the experience of sweetness is determined by factors such as the size of the piece of food that we eat and how long we keep it on our tongue. In fact, the true Magnitude of a sound is the size of the entire area in which it can be heard. While we can approximate the Magnitude of a sound based on its intensity where we hear it, this is not a precise enough process to fully perceive the sound's true Magnitude.

With regards to colors at a distance, they become blurred and dim as opposed to smaller. Yet there is a similarity between the dimming of a color’s vividness and a reduction in an object's physical size. In both cases, each is diminished in some way. Further, in any distant object, the dimness of its colors is proportional to the reduction in its apparent size. This process also holds true when viewing multiple objects at a distance. Consider mountains covered by houses, forests, and many other objects. If we can perceive a house, a tree, or some other detail, we can use this detail to deduce the size and scale of the mountain itself. If details are difficult to make out, it becomes proportionally more difficult to make out the overall size of the mountain as well. This is because we cannot use the details to put the whole image we receive into perspective.

We can even experience difficulty perceiving objects which are close to us if they are excessively detailed. When viewing the object as a whole, the eye is unable to perceive all of the details at once and so they blur together or go unnoticed. Yet if we focus on one particular detail, we can make out said detail’s Magnitude and other Qualities precisely. This process once again true for objects with an excessive variety of color. Viewed as a whole, the individual colors are difficult to discern. When viewed one at a time, the colors and their Magnitude become apparent. In each of these cases, our issues

perceiving the details of something make it proportionally more difficult to accurately perceive it in its entirety.

Objects which are close are difficult to perceive because we become inundated with all of their details. The opposite is true for distant objects. Because our sight is not good enough to traverse the distance to a distant object, we are unable to determine its Form and Qualities. Because we cannot determine its Form and Qualities, we have no way of discerning its true Magnitude.

2.8.2 Refuting the Visual Angle Theory

Some people (including Euclid and Aristotle) hold the position that distant objects only appear smaller because their visual angle changes. The angle an object is viewed at decreases as it becomes further away. This will be discussed more thoroughly elsewhere, but we can highlight the most critical point to aid us in concluding this conversation.

The visual angle theory of distant objects presupposes that our eyes are seeing more than just the distant object in question. For this theory to be plausible, our peripheral vision must still take in visual information, even if it only the empty space surrounding the distant object (which is filled with Air). Yet we experience difficulty in ascertaining the size of distant objects, even when the object occupies the entirety of our field of view. Consider viewing a mountain large enough to occupy the entirety of our field of view, even when we turn our head side to sight to see more of it. An object must occupy only a portion of our field of view for there to be a visual angle relative to our eye and the entire object. Since the mountain in our example occupies the entirety of our field of view, there is no visual angle between it and our eye. In this case, the visual angle theory proposes that we would not experience any difficulty in ascertaining the object's true size (because the visual angle does not exist, let alone change). Yet we do experience such difficulty, even in spite of the lack of visual angles. This is evident by merely glancing at the sky. Even though the sky is so large that we can never perceive it in its entirety, it still appears to be smaller than it actually is. How can there be a visual angle relative to our eyes and the entire sky? Without a visual angle, how can the visual angle theory explain why it appears to be smaller than it is?